

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1 and 2 (cancelled).

3. (currently amended) ~~The apparatus of claim 1, further comprising:~~ An apparatus for at least partially normalizing an axial flow velocity distribution of a flow of cooling air supplied by a fan to a locomotive dynamic braking grid resistor stack, the apparatus comprising:

a duct bounding the flow of cooling air; and

~~the~~ a flow turning vane comprising a corner member disposed proximate a corner of the duct and extending into a relatively higher velocity annular portion of the flow of cooling air and disposed remote from a center portion of the flow of cooling air for directing a portion of the cooling air from a ~~the~~ relatively higher velocity annular portion of the flow of cooling air into a relatively lower velocity corner portion of the flow of cooling air without restricting the center portion of the flow of cooling air.

4. (currently amended) The apparatus of claim 3, wherein the flow turning vane further comprises a V-shaped corner member having a first portion disposed in the relatively higher velocity annular portion and having a second portion extending toward ~~disposed proximate~~ the corner.

5. (currently amended) The apparatus of claim 43, further comprising:

~~a duct bounding the flow of cooling air;~~

~~a first flow turning vane comprising an annular member disposed within the duct for directing a portion of the cooling air from a the relatively higher velocity annular portion of the flow of cooling air into a relatively lower velocity the center portion of the flow of cooling air; and~~

~~— a second flow turning vane comprising a corner member disposed proximate a corner of the duct for directing a portion of the cooling air from the relatively higher velocity annular portion of the flow of cooling air into a relatively lower velocity corner portion of the flow of cooling air; and wherein~~

the corner member is connected to the duct and the annular member is connected to the corner member in order to provide support for both the corner member and the annular member without restricting the center portion of the flow of cooling air.

Claim 6 (cancelled).

7. (currently amended) The apparatus of claim 15, wherein the annular member comprises a first annular member, and further comprising:

~~a first flow turning vane disposed in the flow of cooling air upstream of the resistor stack; and~~

a second flow turning vane annular member disposed in the flow of cooling air downstream of the first flow turning vane annular member and upstream of the resistor stack, the second annular member cooperating with the first annular member for directing the portion of the cooling air from the relatively higher velocity annular portion of the flow of cooling air into the center portion of the flow of cooling air with reduced turbulence in the flow of cooling air than would be created by directing the same portion of the cooling air into the center portion of the flow of cooling air with only a single annular member.

8. (currently amended) A cooling apparatus for a locomotive dynamic brake resistor grid stack, the cooling apparatus comprising:

a fan for inducing a flow of air having a cross-section with a relatively higher velocity annular area and a relatively lower velocity center area;

a duct for directing the flow of air away from the fan to an inlet of a locomotive dynamic brake resistor grid stack; and

a flow directing ~~diffuser-vane~~ disposed within the duct for directing a portion of the flow of air from the relatively higher velocity annular area into a corner region of the duct without restricting the relatively lower velocity center area to at least partially normalize a flow velocity distribution of the air entering the inlet of the grid stack.

9. (original) The cooling apparatus of claim 8, wherein the fan comprises a mixed flow fan.

10. (currently amended) The cooling apparatus of claim 8, further comprising an annular member connected to the ~~wherein the further~~ flow directing ~~diffuser-vane~~ ~~comprises a first annular flow directing vane disposed within the duct for directing a~~ portion of the flow of air from ~~a~~ the relatively ~~higher~~ higher velocity annular area to a ~~relatively lower velocity~~ the relatively lower velocity center area of the duct.

11. (currently amended) The cooling apparatus of claim 10, wherein the annular member comprises a first annular member, and further comprising a second annular ~~flow directing vane member~~ disposed within the duct ~~upstream of the first annular flow directing vane~~ and cooperating with the first annular ~~flow directing vane member~~ to direct the portion of the flow of air from the relatively higher velocity annular area to the ~~relatively lower velocity center area of the duct~~ with reduced turbulence in the flow of air than would be created by directing the same portion of the air into the center area with only a single annular member.

Claim 12 (cancelled).

13. (currently amended) A locomotive dynamic braking grid package comprising:

a plurality of electrical resistors packaged in a grid stack;

a fan ~~for~~ producing a flow of cooling air having a relatively higher velocity annular portion and a relatively lower velocity center portion;

a duct for directing the flow of cooling air from the fan to the grid stack for cooling the plurality of electrical resistors; and

a flow turning vane disposed within the duct remote from the center portion for directing a portion of the cooling air from ~~a the higher axial-velocity area~~ annular portion into a ~~lower axial-velocity corner~~ area of the duct without restricting the relatively lower velocity center portion to at least partially normalize an axial flow velocity profile of the cooling air as it enters the grid stack.

14. (original) The locomotive dynamic braking grid package of claim 13, wherein the fan comprises a mixed flow fan.

15. (original) A locomotive dynamic braking grid package comprising:
a plurality of electrical resistors packaged in a grid stack;
a mixed flow fan for producing a flow of cooling air; and
a duct for directing the flow of cooling air from the fan to the grid stack for cooling the plurality of electrical resistors.

16. (original) The locomotive dynamic braking grid package of claim 15, further comprising an annular flow turning vane disposed within the duct for directing a portion of the cooling air from a higher axial velocity annular area into a lower axial velocity center area of the duct to at least partially normalize an axial flow velocity profile of the cooling air as it enters the grid stack.

17. (original) The locomotive dynamic braking grid package of claim 16, further comprising a corner vane member attached between the annular flow turning vane and the duct for directing a portion of the flow of air from the relatively higher velocity annular area to a relatively lower velocity corner area of the duct.

18. (original) The locomotive dynamic braking grid package of claim 15, further comprising:

a first annular flow turning vane disposed within the duct for directing a portion of the cooling air from a higher axial velocity annular area into a lower axial velocity center area of the duct; and

a second annular flow turning vane disposed within the duct downstream of the first annular flow turning vane and cooperating with the first annular flow turning vane to direct the portion of the cooling air from the higher axial velocity annular area into the lower axial velocity center area of the duct to at least partially normalize an axial flow velocity profile of the cooling air as it enters the grid stack.

19. (new) The apparatus of claim 3, wherein the flow turning vane further comprises two interconnected flat plates forming a V-shape connected to the duct and disposed at an angle relative to a longitudinal axis of the duct to become closer to the duct as the cooling air progresses downstream along the axis for directing a portion of the cooling air from the relatively higher velocity annular portion of the flow of cooling air into the relatively lower velocity corner portion of the flow of cooling air without imparting tangential velocity to the flow of cooling air.

20. (new) The cooling apparatus of claim 8, wherein the flow directing vane further comprises two interconnected flat plates forming a V-shape connected to the duct and disposed at an angle relative to a longitudinal axis of the duct to become closer to the duct as the air progresses downstream along the axis for directing a portion of the flow of air from the relatively higher velocity annular area into the corner region without imparting tangential velocity to the flow of air.

21. (new) The locomotive dynamic braking grid package of claim 13, wherein the flow turning vane further comprises two interconnected flat plates forming a V-shape connected to the duct and disposed at an angle relative to a longitudinal axis of the duct to become closer to the duct as the cooling air progresses downstream along the axis for directing a portion of the cooling air from the higher velocity annular portion into the corner area without imparting tangential velocity to the flow of cooling air.

22. (new) The locomotive dynamic braking grid package of claim 16, further comprising two interconnected flat plates forming a V-shape connected to the duct and disposed at an angle relative to a longitudinal axis of the duct to become closer to the duct as the cooling air progresses downstream along the axis for directing a portion of the cooling air from the higher axial velocity annular area into the lower axial velocity center area without imparting tangential velocity to the flow of cooling air.

23. (new) An apparatus for at least partially normalizing an axial flow velocity distribution of a flow of cooling air supplied by a fan to a locomotive dynamic braking grid resistor stack, the apparatus comprising:

a first annular flow directing member disposed within the duct for directing a portion of the cooling air from a relatively higher velocity annular portion of the flow of cooling air into a relatively lower velocity center portion of the flow of cooling air; and

a second annular flow directing member disposed in the flow of cooling air downstream of the first annular flow directing member and upstream of the resistor stack, the second annular flow directing member cooperating with the first annular flow directing member for directing the portion of the cooling air from the relatively higher velocity annular portion of the flow of cooling air into the relatively lower velocity center portion of the flow of cooling air with reduced turbulence in the flow of cooling air than would be created by directing the same portion of the cooling air into the center portion of the flow of cooling air with only a single annular flow directing member.